

Here Today, Gone Tomorrow

Study Units

Unit 1: Iowa's Wildlife Resource Base; Unit 3: Wildlife Management

Supplemental Information

Species extinction is analogous to a machine losing pieces. The machine can keep running for a while, even if it is missing a bolt, washer, or other seemingly nonessential part. But if parts keep falling off, how long can it go on functioning? Would you want to fly on an airplane after someone had spent an hour removing small rivets from the wing?

That is what is happening on earth. Small parts of our working ecosystems are being lost. How long can all the systems that support life continue to operate, while losing pieces? This analogy can also be used to describe the effects when an endangered species is able to recover. If we save all the pieces, we can make the machine work again.

See the background information in *Unit 1* and *Unit 3* for a more complete discussion of endangered and threatened species in Iowa and a chart of "Native Species Reintroductions." Many species reintroduced or given protection through regulations are ones many students (and adults) didn't know were ever gone from the state (e.g., white-tailed deer, wild turkeys, giant Canada geese, beaver). We may be amazed in the future at which species, once endangered or extirpated, will become working pieces of Iowa's ecosystem again. (There are more and more sightings of bobcats, mountain lions, bald eagle nests, and even black bears.)

Several factors have contributed to successes with endangered species. Habitat preservation and reconstruction are essential. Changes in human behaviors and attitudes toward these species often are necessary for successful reintroductions. Laws now protect deer, turkey, geese, and beaver. They cannot be harvested during their breeding seasons and limits are set on the numbers taken during hunting and trapping seasons. Large predators are no longer thought of as vermin.

Teaching Suggestions

Read "On A Monument To A Pigeon" from Aldo Leopold's *A Sand County Almanac*. He writes of the extinct passenger pigeon. This essay conveys a sense of the importance of trying to save endangered species. It may inspire students to write their own essays on how they would feel if a species now endangered became extinct. Endangered means there's still time, extinct is forever.

Use the *Endangered and Threatened Animal Species in Iowa*, the *Endangered and Threatened Plant Species in Iowa*, and the *Here Today, Gone Tomorrow... Back Again* chart as starting points for the students' investigations. As more data is gathered, endangered and threatened lists are revised. Check the web sites listed in the "Additional Materials" section for the most up-to-date listing of Iowa's endangered and threatened species.

Have students research species of wildlife extirpated from Iowa. Which ones have returned or been reintroduced? See the activity, "Back from the Brink."

Have students study data gathered by NatureMapping volunteers. It is a citizen science program that uses volunteers to collect presence or absence data on common wildlife species. This data can be used to keep common wildlife common and avoid expensive crisis situations that arise when a species becomes endangered and is in need of extensive efforts to save it.

Evaluation

See the activity. Have students list species of wildlife that have been successfully reintroduced in Iowa.

Student Materials

Here Today, Gone Tomorrow... Back Again

Teacher Aids

Endangered and Threatened Animal Species in Iowa

Endangered and Threatened Plant Species in Iowa

Additional Materials

Dinsmore, J.J. 1994. *A Country So Full of Game*. Iowa City: University of Iowa Press.

Galan, M. 1997. *There's Still Time; The Success of the Endangered Species Act*. Washington DC: National Geographic Society.

Leopold, A. 1949. *A Sand County Almanac, and Sketches Here and There*. New York: Oxford University Press.

Little, T.W. 2001. *Restoring Iowa's Wildlife*. Iowa Conservationist (Sept/Oct 2001). Des Moines: Iowa Department of Natural Resources.

endangered.fws.gov (federally endangered/threatened species list)

www.epa.gov (endangered species protection program)

www.extension.iastate.edu/naturemapping (data gathered by volunteers)

www.legis.state.ia.us (Iowa Administrative Code—#571, Chapter 77, state endangered/threatened species list)

www.iowadnr.gov/other/threatened.html- (Iowa threatened/endangered species list)

Here Today, Gone Tomorrow...Back Again

animal species					
extinct					
endangered state/federal					
threatened state/federal					
reintroduced					
part or role in the system					
factors affecting status					

Endangered and Threatened Animal Species in Iowa

Endangered Animals

Mammals

Indiana bat
plains pocket mouse
red-backed vole
spotted skunk

Birds

bald eagle
common barn owl
king rail
least tern
northern harrier
peregrine falcon
piping plover
red-shouldered hawk
short-eared owl

Fish

bluntnose darter
freckled madtom
lake sturgeon
least darter
pallid sturgeon
pearl dace
pugnose shiner
weed shiner

Reptiles & Amphibians

blue-spotted salamander
copperbelly water snake
copperhead
crawfish frog
great plains skink
massasauga rattlesnake
prairie rattlesnake
western hognose snake
wood turtle
yellow mud turtle

Butterflies

Dakota skipper
ringlet

Land Snails

bluff vertigo
Briarton pleistocene vertigo
Iowa pleistocene ambersnail
Iowa pleistocene snail
Iowa pleistocene vertigo
Minnesota pleistocene ambersnail
frigid ambersnail

Fresh Water Mussels

buckhorn
bullhead
Higgin's-eye pearly mussel
Ohio River pigtoe
Ozark pigtoe
slippershell
slough sandshell
spectacle case
yellow sandshell

Threatened Animals

Mammals

least shrew
southern bog lemming

Birds

long-eared owl
Henslow's sparrow

Fish

American brook lamprey
black redhorse
blacknose shiner
burbot
chestnut lamprey
grass pickerel
orangethroat darter
Topeka shiner
western sand darter

Reptiles & Amphibians

Blanding's turtle
central newt
common musk turtle
diamondback water snake
mudpuppy
ornate box turtle
slender glass lizard
speckled kingsnake
western worm snake

Butterflies

Baltimore
byssus skipper
mulberry wing
silvery blue
Poweshiek skipperling

Snails

Midwest pleistocene vertigo
occult vertigo

Fresh Water Mussels

butterfly
creek heelsplitter
cylinder
ellipse
purple pimpleback
strange floater



Endangered and Threatened Plant Species in Iowa

Endangered Plants

annual skeletonweed
arrow arum
bearberry
bigroot pricklypear
black chokecherry
black-based quillwort
blue giant-hyssop
bog bedstraw
bog clubmoss
bog goldenrod
Canada plum
cinnamon fern
clammyweed
cleft conobea
clustered broomrape
cordroot sedge
crossleaf milkwort
Douglas' knotweed
dwarf dandelion
eared milkweed
eastern prairie fringed orchid
false mermaid
fern-leaved false foxglove
frenchgrass
jointweed
large-bracted corydalis
large-leaved aster
large-leaved violet
long beechfern
Matricary grape fern
Mead's milkweed
meadow spikemoss
narrow-leaved milkweed
northern lungwort
northern panic-grass
northern St. Johnswort
pale false foxglove
pale green orchid
pickering morning-glory
pineweed
pink shinleaf
poppy mallow (*Callirhoe triangulata*)
povertygrass
prickly rose
purple cliffbrake
purple milkwort
ricebutton aster
ricegrass
rough-leaved goldenrod
rough-seeded fameflower
roundleaved sundew
running clubmoss
rusty woodsia
Schreber's aster

silky prairie-clover
swamp loostrife
three-toothed cinquefoil
water marigold
water-willow
waxy meadowrue
whiskbroom parsley
winterberry
yellow-eyed grass
yellow-lipped ladies-tresses

Threatened Plants

beaked rush
black huckleberry
blue ash
bog birch
bog buckbean
bog willow
buffaloberry
bunchberry
creeping juniper
dayflower
false hellebore
fameflower
flax-leaved aster
forked aster
fragrant false indigo
glandular wood fern
golden corydalis
golden saxifrage
green violet
hairy pinweed
hairy waterclover
hooded ladies-tresses
Hooker's orchid
intermediate pinweed
jeweled shooting star
kidney-leaved violet
kittentails
large arrowgrass
leathery grapefern
little grapefern
little pricklypear
low nutrush
low sweet blueberry
marginal shield fern
meadow beauty
northern bog orchid
northern currant
northern wild monkshood
nodding wild onion
oak fern
one-sided shinleaf
Oregon woodsia
oval ladies-tresses
pagoda plant

partridge berry
Pennsylvania cinquefoil
Philadelphia panic-grass
pinesap
pink corydalis
pink milkwort
pipsissewa
poppy mallow (*Callirhoe alcaeoides*)
prairie bush clover
purple fringed orchid
queen of the prairie
rock clubmoss
rosy twisted-stalk
round-stemmed false foxglove
royal fern
rush aster
scarlet globemallow
shining willow
showy lady's-slipper
showy milkweed
shrubby cinquefoil
silverweed
slender beardtongue
slender cottongrass
slender ladies-tresses
slim-leaved panic-grass
small arrowgrass
small sundrops
spotted coralroot
spring ladies-tresses
sweet Indian-plantain
tree clubmoss
twinflor
twinleaf
velvetleaf blueberry
Virginia snakeroot
water parsnip
western parsley
western prairie fringed orchid
wild lupine
winged monkeyflower
woodland horsetail
woolly milkweed
yellow monkeyflower
yellow trout lily

